

13-4/233



THE BEAN BAG

A newsletter to promote communication among research scientists concerned with the systematics of the Leguminosae/Fabaceae.

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No. 17

June 1982
(a month late)

B. A. KRUKOFF

by M. R. Crosby and Les Landrum

B. A. Krukoff, an important benefactor of systematic botany, died on 19 January 1983. Born in Kasan, Russia, on 20 July 1898, he arrived in the U.S.A. in 1923 after naval service. He graduated from Syracuse University in forestry in 1928 and spent most of his professional career with Merck and Co., now Merck, Sharp and Dohne, where he was concerned with plants as sources of various drugs, including anesthetics, anti-malarials, anthelmintics, and cortisone. Between 1928 and 1955 he led numerous botanical exploration expeditions to South America, Africa, and Sumatra. The principal aim of these explorations was the discovery of potentially useful plants. About 11,000 numbers and over 100,000 sheets were collected, together with about 4,000 authentic wood samples. Aside from his work with Merck, he carried out extensive research in systematic botany, often in collaboration with others. His concentration was on the American species of *Strychnos*, of which he described 25 new species; the *Menispermaceae*, of which he described four genera and 11 species; and *Erythrina*, of which he described 28 species. He was the author or co-author of about 70 publications, and organized a series of four symposia on *Erythrina*, the results of which were published in various journals. In 1928 he began a long association with the New York Botanical Garden, serving as honorary curator from 1940 to 1948 and again since 1970. In 1970 he received a Distinguished Service Award from New York, and the Henry Shaw Medal from the Missouri Botanical Garden was awarded to him in 1981. He was awarded an honorary doctorate from the City University of New York in 1981. The Krukoff Curatorship of Amazonian Botany at New York and the Krukoff Curatorship of African Botany at Missouri were endowed by him, and he set up funds for various botanical studies at Kew, Leiden, and Missouri. A biography of Dr. Krukoff will be prepared and published independently.

WORLD SOYBEAN RESEARCH CONFERENCE III

Iowa State University
Ames, Iowa

August 12-17, 1984

To receive further information: Dr. Walter R. Fehr
Department of Agronomy
Iowa State University
Ames, Iowa 50011
USA

NEWSLETTERS

COMPOSITAE NEWSLETTER

Editor: Jette Baagoe, Botanical Museum, University of Copenhagen,
Gothersgade 130, DK-1123 Copenhagen K, Denmark.

INTERNATIONAL CHICKPEA NEWSLETTER

Pulse Improvement Program, ICRISAT, ICRISAT Patancheru P.O., Andhra
Pradesh-502324, India

LOTUS NEWSLETTER

Lotus Newsletter, No. 13, 1982, is ready for distribution. It contains progress reports and other items on Lotus being carried out throughout the world. A limited number of copies are available for distribution. Available from the Editor, Dr. W. F. Grant, Genetics Laboratory, Box 282, Macdonald Campus of McGill University, Ste. Anne de Bellevue, Quebec, Canada H9X 1C0. Cost \$5.00 postpaid. Please send payment if you wish a copy.

MESQUITE NEWSLETTER

An international organization of mesquite producers and suppliers devoted to communication of uses of mesquite wood: Lumber, parquet flooring, fine furniture, handcrafted items, and sculptures. Paul Hope, Editor, 1415 Northridge, Austin, Texas 78723, USA.

FABACEAE - FLORA OF AUSTRALIA

by L. Pedley

A workshop to consider preparation of the treatment of Fabaceae (Leguminosae: subfamily Papilionoideae) for the Flora of Australia was held in Canberra on 14 and 15 February. The workshop was organised by the Bureau of Flora & Fauna, the body responsible for the production of the Flora. Participants were Dr. A. McCusker, Bureau of Flora & Fauna (chairman), Mr. A. S. George, Bureau of Flora and Fauna (secretary), Dr. T. Macfarlane, Western Australian

Herbarium, Dr. J. H. Ross, National Herbarium of Victoria, Dr. M. D. Crisp, National Botanic Gardens, Canberra, Mrs. J. Thompson, National Herbarium of New South Wales, and Mr. L. Pedley, Queensland Herbarium.

The workshop adopted the tribal classification of Polhill & Raven (Advances in Legume Systematics), though it recognised that the separation of the Bossiaseae and Brongniartieae might be questioned. The following divisions into volumes was recommended:

- Volume 13. Sophoreae, Dalbergieae, Abreae, Tephrosieae, Robinieae, Indigofereae, Desmodieae, Phaseoleae, Psoralieae, Aeschynomeneae, Phaseoleae, Psoralieae, Aeschynomeneae, Adesmieae.
- Volume 14. Galegeae, Hedysareae, Loteae, Coronilleae, Vicieae, Cicereae, Trifolieae, Bossiaseae, Podalyrieae, Crotalarieae, Genisteae.
- Volume 15. Mirbeleae

In the systematic arrangement the Mirbeleae are placed between the Trifolieae and Bossiaseae. As currently known, the size of each volume will be: 13-73 genera, 300 species; 14-44 genera, 275 species; 15-20 genera, 550 species. It is expected that critical work will increase the number of species by 10-20 per cent. The following timetable for publication of the volumes was recommended:

1989-14
1991-13
1993-25

It was recommended that a key to all genera in the family be included in volume 15. Crisp has already prepared such a key.

ADDITIONS AND CORRECTIONS TO NOVEMBER 1982 DIRECTORY

ADDITIONS:

ARAMBARRI, Ana Maria; Catedra de Botanica, Facultad de Agronomia U.N.L.P.,
Calle 60 y 118 - C.C.31, C.P. 1900 La Plata, Bs. As., Argentina
BIEMONT, Jean Claude; Institut de Biocenotique, Experimentale des Agrosystemes,
Av. Monge, Parc Grandmont, 37200 Tours, France
BOURGEOIS, Gilles; 741 Irvine Street, Apartment 2, Fredericton, N.B., Canada
E3A 3E8 [Green manure]
BRETELER, F. J.; Dr.; Herbarium Vadense, P.O. Box 8010, 6700ED Wageningen,
Netherlands [Baphia, Leucomphalos, Baphiastrum, Bowringia, Airyantha
(Sophoreae)]
CROSBY, Marshall R.; Missouri Botanical Garden, P.O. Box 299, St. Louis,
Missouri 63166 USA
FORTUNATO, Renee Hersilia; Instituto de Botanica Agricola, I.N.T.A., Villa
Udaondo, Castelar, 1712, Buenos Aires, Argentina

HESLOP-HARRISON, J.; Prof.; Cell Physiology Laboratory, Welsh Plant Breeding Station, Plas Gogerddan, Nr. Aberystwyth, Dyfed SY23 3EB, U.K.
HILGER, Hartmut H.; Dr.; Abteilung Spezielle Botanik (Bio V), Der Universität, Oberer Eselsberg, Postfach 4066, D - 7900 Ulm / Donau, Federal Republic of Germany [Floral anatomy]
HUIGNARD, Jacques; Institut de Biocénotique, Experimentale des Agrosystèmes, Av. Monge, Parc Grandmont, 37200 Tours, France
KERGUELEN, Michel; Mr.; Station Nationale d'Essais de Semences, Service Botanique La Minière, 78280 Guyancourt, France [Seeds, nomenclature]
KNOX, R. B.; Prof.; School of Botany, University of Melbourne, Parkville, Victoria 3052, Australia
KOHL, Danny; Prof.; Department of Biology, Washington University, Campus Box 1137, St. Louis, Missouri 63130 USA
LEROI, Bernard; Dr.; Institut de Biocénotique, Experimentale des Agrosystèmes, Av. Monge, Parc Grandmont, 37200 Tours, France
NAIR, P. K. K.; National Botanical Research Institute, Lucknow, U.P., India
PEDERSOLI, Jose Luiz; Museu de Historia Natural Jardim Botânico, Caixa Postal 2475; CEP - 30.000, Belo Horizonte - Minas Gerais, Brazil
POUZAT, Jean; Institut de Biocénotique, Experimentale des Agrosystèmes, Av. Monge, Parc Grandmont, 37200 Tours, France
REGALADO, Jr., Jacinto C.; Mr.; Department of Botany, University of Philippines at Los Baños, College, Laguna, Philippines [Cajanus and Atylosia]
VIGAY KOMAR, B. L.; Mr.; H. No. 12.2.419/3, Alapati Nagar, Huyayun Nagar Doit, Hyderabad 500 028, Andhra Pradesh, India
ZARUCCHI, James L.; Dr.; Botany - NHB Stop 166, Smithsonian Inst., Washington, DC 20560 USA [Neotropical legume]

INSTITUTION:

LIBRARY, Kerala Forest Research Institute, Peechi - 680 653, Trichur District, Kerala State, India

CORRECTIONS:

ATHAR: (New address). Soil Biology Lab., National Agricultural Research Centre, Pakistan Agricultural Research Council, P/O. N.I.H. Islamabad, Pakistan.
BERNARDI: Retired.
COMBES: (New address). IBEAS, Casino Municipal, PARC Beaumont, 64000 PAU, France.
CUBERO: Change Apartado 246 to Apartado 3048.
EVERIST, S. L.: Died.
FELKER: (New address): Caesar Kleberg Wildlife Research Institute, Campus Box 217, Kingsville, Texas 78363 USA.
GARCIA-MOYA: (Add): Mexico 56230.
GIANGUALANI: (New address): Rua Manoel Vitorino, 02 Gonzaga, Santos, 11100 Sao Paulo, Brazil.
JIMENEZ ALMONTE, Jose de Jesus: Died.
KRUKOFF, B. A.: Died.
LANG: (Change name and address): LANG-UNNASCH, Naomi; Molecular Biology Department, Massachusetts General Hospital, Jackson-11, Boston, Massachusetts 02114 USA.

MISRA: (New address): P.O. Box 4723, University, Mississippi 38677 USA.
OSMAN: (New address): School of Agriculture, University of Mauritius, Reduit, Mauritius.
RAO, M. Mauhusudana: (Name misspelled and new address): Maudhusudana; Department of Botany, College of Arts & Science, Kamareddy-503113, AP, India.
RODRIGUEZ-CARRASQUERO: (New address): Universidad de los Andes, Facultad de Ciencias Forestales, Apartado No. 305, Merida, Venezuela.
SAYER: Dropped.
SILVA: (Address changes): INPA, Estrada do Aleixo, 1756, Coroado 69.000, Manaus-Amazonas, Brazil.
VAN DER MAESEN: (New address): Genetic Resources Unit, ICRISAT, Patancheru P.O. Box 502324 A.P., India.

INSTITUTION:

Library Rijksherbarium: (Address change): P.O. Box 914, 2300 Ra Leiden-Netherlands.

GLEANINGS

ALBUQUERQUE needs literature on how to germinate legume seeds. Working with *Cajanus cajan*.
ARAMBARRI, a new reader, is beginning a study of distinguishing characters of seeds of *Lotus* spp. She offers small samples of *Acacia longifolia*, *A. dealbata*, *Albizia julibrissin*, and *Lotus tenuis*.
ATHAR continues his work with *Rhizobium* in legumes. Has seeds of *Cicer* and *Lens*, needs seeds of *Acacia*, *Leucaena*, and *Sesbania*.
BIEMONT see HUIGNARD.
BRETELIER and student De Bruyn are revising selected genera in the *Sophoreae*: *Airyantha*, *Baphia*, *Baphiastrum*, *Bowringia*, *Leucomphalos*.
BURLEY, currently a consultant to the International Council for Research in Agroforestry (Nairobi), is preparing background resource documentation for a workshop on multipurpose tree germplasm.
COMBES has begun study of genetic resources and morphogenesis of Mediterranean species of *Hedysarum*, in cooperation with Tunis University. Needs *Hedysarum* spp., and offers Mediterranean species of same genus. Plans field trip to Malta and Sicily in spring of 1983. Has begun study of *Lathyrus*.
CUBERO has started a study of European *Lupinus*. Needs small seeded varieties of *Vicia faba* and *Lupinus albus* (*L. graecus*, *L. jugoslavicus*). Offers material of *Vicia faba*, *V. sativa*, *Lupinus* spp., and *Cicer arietinum*. Plans a trip to southern Spain for wild *Vicia* species in summer 1983.
DONSELMAN wants seeds of tropical legume trees that may have ornamental potential in Florida. Is evaluating *Caesalpinia granadillo* as a landscape tree for southern Florida.
DUKE has begun a study of seedlings of nitrogen-fixing trees, especially in genera *Acacia*, *Acrocarpus*, *Albizia*, *Baphia*, *Calliandra*, *Clitoria*, *Copaifera*, *Dalbergia*, *Dipteryx*, *Inga*, *Lonchocarpus*, *Mimosa*, *Parkia*, *Pentaclethra*, *Pithecellobium*, *Pongamia*, *Prosopis*, *Pterocarpus*, *Schizolobium*, *Sesbania*, and *Sindora*.

- EVANS has completed his chemotaxonomic study of Tephrosieae for Ph.D. Now started similar project on Robinieae. Has small seed samples of Tephrosieae for distribution. Needs viable seed of Robinieae.
- EVERIST passed away in October 1981, aged 68.
- FELKER continues his research on applied aspects of Prosopis and Leucaena, including nitrogen fixation, mycorrhizae, tissue culture, rooting cuttings, and field trials. Needs information on twig girdlers of genus Oncideres which girdle Acacia, Prosopis, Leucaena, and Albizia in New World. Needs information on self-incompatibility and efforts to cross Prosopis species.
- FERGUSON hopes to visit Kenya to study pollination biology of Indigofera early summer 1983.
- FORTUNATO will annotate Phaseoleae and Bauhinia of Argentina.
- GARCIA-MOYA offers material of Dalea bicolor, Acacia schaffneri, and Calliandra eriophylla.
- GEESINK is willing to annotate Millettia, Derris, and other Tephrosieae from S.E. Asia, and Indigofera from S.E. Asia. Will publish Ph.D. dissertation on generic revision of Tephrosieae. The typescript will be ready about September 1983 for publication in Leiden Botanical Series. This is an elaboration of the Tephrosieae treatment given in Advances in Legume Systematics. Any noticed peculiarity or suggestion on the Advances treatment is welcome until about August 1983.
- GILL has started study of tracheary characteristics of Nigerian leguminous trees, and seed health of Nigerian legumes.
- GRETHER-GONZALES has begun the genus Mimosa for the Flora Mesoamerica project. She wants to exchange herbarium material of Mimosa.
- GUNN will send all Bean Bag readers a copy of USDA Technical Bulletin 1680, "A Nomenclator of Legume (Fabaceae) Genera," due to be released for distribution by September, 1983.
- HEYN see PLITMANN.
- HOC is studying the Ingeae from Argentina. Has in press a palynological study of the genus Cathormion.
- HOU has started a study of the Caesalpinioideae for the Flora Malesiana.
- HUIGNARD, a new reader, studies Bruchidae in Phaseolinae. This is in conjunction with LEROI, BIEMONT, and POUZAT.
- HUSAINI continues his work on cytomorphology of leguminous plants of Nigeria.
- JOHNSON begins study of the systematics and evolutionary biology of Acanthoscelides (Bruchidae) of northern South America. He needs bruchid beetles reared from seeds, and offers seeds from southern Mexico, and Central and South America. He will collect legumes and seeds in Colombia, Ecuador, and Venezuela during August-October 1983.
- LANG has changed her name to Dr. LANG-UNNASCH.
- LEROI see HUIGNARD.
- LEWIS is willing to annotate Bahian legumes and neotropical legumes generally, particularly in tribe Mimoseae. Needs color transparencies of any legumes, in flower, fruit, general habit, pollinators, etc. Will furnish names if photos accompanied by herbarium vouchers. Also needs Madagascar and Cuba material of any Leguminosae. Has completed Sesbania for Flora Zambesiaca. Will visit Munich, Hamburg, and Bruxelles this year to clear up some Bahian legume problems. Will study Martius, Ule, and Luetzelburg types. Will probably register for Ph.D. on Mimoseae at end of 1983.
- Maldonado de Magnano under the direction of PALACIOS is studying the embryology and reproductive biology of species of Prosopis from Argentina.

- MAMICPIC is studying *Leucaena* seeds under accelerated aging conditions.
- MANTOVANI offers material of leguminous species from cerrado vegetation of Moji-Guacu Sao Paulo, Brazil.
- MASLIN continues his work on *Acacia*. Wishes to exchange Western Australian *Acacia* material for *Acacia* from elsewhere.
- MIEGE continues his SEM studies of Phaseoleae seed coats, lectin, and protein body. Needs seeds of *Cordeauxia*.
- NEILL is continuing his biosystematic studies in *Erythrina* including electrophoretic studies of seed proteins and SEM studies of leaf surfaces has completed a series of experimental hybridizations with cultivated *Erythrina* at Pacific Tropical Botanical Garden in Hawaii, including successful crosses between neotropical and Asian and African species. Needs seeds of South American and Paleotropical species of *Erythrina*, and has seeds of Mexican species of *Erythrina* (viable for propagation). Studied pollination ecology and breeding systems of *Erythrina* in southern Mexico from January-April 1983. Is willing to annotate *Erythrina*.
- OHASHI needs herbarium specimens of Papilionoideae, especially Desmodieae, Hedysareae and Phaseoleae. Offers herbarium specimens of Japanese and Taiwanese Fabaceae. Plans to go to Yunnan in China in May and June, 1983, with Professors H. Hara and K. Iwatsuki of the University of Tokyo. His special interest is the Himalayan element of Fabaceae. He is currently revising the Fabaceae of Taiwan with Professor T. C. Huang of National Taiwan University. For this project they made a collection trip in October and November, 1982, in Taiwan. A set of the collections will be kept in TUS, TI, and TAI.
- OSMAN needs seeds of fast-growing woody legumes. Offers seeds of *Leucaena leucocephala* and *L. diversifolia*.
- PATE see SPRENT.
- PLITMANN and HEYN finishing a taxonomic study of the mid-ribbed annual *Lathyrus* species and starting a project on the cytogenetic relationships between *L. sativus* and its wild relatives. Seeds of *L. cicera*, *L. sativus* and *L. pseudocicera* are requested.
- PLITMANN and Pazy proceeding on a biosystematic study of the Old World *Lupinus*. Needs seeds and/or fixed young flower buds of "primitive" South American and African species (e.g. *L. princei*, *L. tassilicus*) lupines, for cytological analyses.
- POUZAT see HUIGNARD.
- RAINA reports that graduate student R. C. Verma was awarded the Ph.D. degree on the thesis "Cytogenetics of *Crotalaria* and *Phlox*."
- RODRIGUEZ PEREZ offers seeds of *Phaseolus acutifolius* var. *latifolius*, *Acacia eburnea*, *A. horrida*, *A. longifolia*, *Cassia angustifolia*, and *Teline canariensis*. Needs seeds of *Prosopis tamarugo*, *P. chilensis*, *Acacia alba*, *Acacia tortilis*, *Acacia aneura*, *Acacia victoriae*, *Cassia sturtii*, and *Prosopis alba*.
- SCHRODER (new reader) is studying the effect of soil pH and host genotype on the nodulation and nitrogen fixation of *Leucaena* spp. Needs seeds of *Leucaena* spp. and offers rhizobium cultures and seeds of *Macroptilium atropurpureum* cv. *siratro* and *M. lathyroides*.
- SIDDIQUI offers seeds of *Sesbania* spp.
- SILVA has begun work on *Crudia* and *Cynometra* of the Amazon. Wants material of these genera, including phototypes and bibliographic material.

SMITH has completed a survey of structural and functional aspects of the cotyledons in ca. 900 legume species. The first paper, on cotyledon anatomy, is in press (Jour. Linn. Soc. Bot., Vol. 86); others will follow in due course on venation patterns (with R. C. Scott), histology, reserve mobilization patterns (with H. M. Keville) and endopolyploidy (with C. Bryans). Willing to answer queries on any of these aspects.

SPRENT has started nodulation studies in *Neptunea* and in tribe *Mirbelieae* (with PATE). Also has begun studies in nitrogen nutrition in grain legumes.

STIRTON has completed studies on stomata in overgrown legume seeds and on *Ormosia* seeds as seen by SEM. Needs seeds of *Sophoreae* for chemical studies. Is willing to annotate American *Sophoreae* and African *Psoraleae*.

VAN DER MAESEN needs seeds of various *Cajaninae* and *Cicer*. Is willing to annotate *Atylosia*, *Cajanus*, *Cicer*, and *Pueraria*. Actively progressing on revisions of *Cajanus* and *Pueraria*.

VERDCOURT is willing to annotate New Guinea and East Africa legumes. Announces that he has "definitely moved from legumes!"

YAKOVLEV recently returned from field trips in Vietnam near Dalat and in reservation Cuocphuong.

RECENT LITERATURE

- ATHAR and MAHMOOD. 1982. New records of legume nodulation from Pakistan. Pak. Jour. Bot. 14: 36.
- Avazneli, A. A. 1981. Leguminosae. Flora Gruzii v. 7.
- Baatout, H. 1982. Analyse du polymorphisme dans le complexe *Hedysarum spinosissimum* L. Soc. Bot. France 129: 155-165.
- BAUDOIN. 1981. Observations sur quelques hybrides interspecifics avec *Phaseolus lunatus* L. Bull. Rech. Agron. Gembloux 16(4): 273-286.
- Bosman, M. T. M., and A. J. P. de Haas. 1983. A revision of the genus *Tephrosia* (Leguminosae-Papilionoideae) in Malesia. Blumea 28: 421-487.
- BRAVO. 1982. Estudio de las semillas del genero *Cassia*. Serie Aphyllae (Leg.). Darwiniana 24(1-4): 455-468.
- Chriki, A., COMBES and Marrakechi, M. 1982. Heredite et analyse chromatographique de la pigmentation des fleurs chez l'espece *Hedysarum coronarium* L. Agronomie 2(10): 915-922.
- Classen, D., NOZZOLILLO and SMALL. 1982. A phenolic-taxometric study of *Medicago* (Leguminosae). Can. J. Bot. 60: 2477-2495.
- CUBERO. 1982. Interspecific hybridization in *Vicia*. In Faba Bean Improvement.
- Das M. N., and J. K. Maheshwari. 1982. The legumes of Vaishali district Bihar, India. Jour. Econ. Taxon. Bot. 3(1): 201-226.
- DONSELMAN and FLINT. 1982. Genecology of eastern redbud (*Cercis canadensis*). Ecology 63: 962-971.
- Esteve Chueca F. 1981 (recd. 1982). New taxonomic references on the genus *Rivasgodaya* and its relation to the communities in which it settles. An. R. Acad. Farm 47(4): 481-490.
- EVANS, FELLOW and BELL. 1983. Glucosidase and trehalase inhibition by 1,5-dideoxy-1,5-amino-D-nannitor, a cyclie amino aldital from *Lonchocarpus sericeus*. Phytochemistry 22(3): 768-770.

- FERGUSON and J. J. Skvarla. Pollen morphology in relation to pollinators in Papilionoideae Leguminosae. Bot. Jour. Linn. Soc. 84(3): 183-194.
- FERGUSON and Strachan. 1982. Pollen morphology and taxonomy of the tribe Indigoferae (Leguminosae: Papilionoideae). Pollen et Spores 24(2): 171-210.
- Forman, L. L. 1982. Proposal to conserve the generic name 4445 Galearia Zoll. & Mor. (1846) Pandac. against Galearia Presl (1832) Leguminosae. Taxon 31(3): 565-666.
- FORTUNATO. 1982. Una nueva especie del genero Rhynchosia (Leguminosae). Darwiniana 24(1-4): 497-501.
- Gemmeke, V. 1982. A study of foral organogenesis in the Mimosaceae. Bot. Jahrb. Syst. Pflanzengesch. Pflanzengeogr. 103(2): 185-210.
- GIANGUALANI. 1982. Sinopsis de las especies patagónicas del genero Vicia. Parodiana 1(2): 323-339.
- GLADSTONES. 1982. Lupins...the genetic resource. Jour. Agri. W. Australia 23(3): 67-9. [Part of Journal devoted to the genetic improvement, agronomy, and economic uses of crop lupines in Western Australia. Mainly L. angustifolius.]
- GRETHER. 1982. Mimosa alba, sensitiva (Leguminosae) en Mexico. Phytologia 52(2): 81-92.
- GRETHER. 1982. Aspectos ecologicos de Mimosa biuncifera y Mimosa monancistra en el noroeste del Estado de Guanajuato. Bol. Soc. Bot. Mexico No. 43.
- Hedge, U and V. D. Tilak. 1981 (recd. 1982). Anatomy of the seedling in the Leguminosae 2. Indian J. Bot. 4(2): 96-102.
- HOC. 1982. El genero Pithecellobium (Mimosoideae, Ingieae) en Argentina. II. Estudio del polen. Darwiniana 24(1-4): 33-47.
- HOPKINS. 1982. Three new species of Parkia (Leguminosae: Mimosoideae) from tropical South America Parkia Calhimboensis, Parkia Bahiae, Parkia Panurensis. Brittonia 34(3): 346-350.
- ISELY. 1982. New combinations and 1 new variety among the genera Indigofera Robinia and Tephrosia leguminosae. Brittonia 34: 339-341.
- ISELY. 1983. Classification of alfalfa (Medicago sativa L.) and relatives. Iowa State Jour. Res. 57(3): 207-220.
- KINGSOLVER. 1982. Taxonomic studies in the genus Rhipibruchus coleoptera (Bruchidae) with descriptions of 4 new species. Proc. Entomol. Soc. Wash. 84(4): 661-684.
- Kostermans, A. J. G. H. 1982. The genus Cynometra (Leguminosae) in Ceylon new taxa. Reinwardtia 10: 63-68.
- KRUKOFF. 1982. Notes on the species of Erythrina. Phytologia 51: 440-457.
- Lang, J. M. and ISLEY. 1982. Eysenhardtia (Leguminosae, Papilionoideae). Iowa State Jour. Res. 56(4): 393-418.
- LEWIS and 'TMANNETJE. 1982. 2 new species of Leguminosae Papilionoideae from Bahia Brazil. Kew Bull. 37(1): 123-127.
- Maldonado de Magnano, S. 1982. Estudios embriologicos en Astragalus (Leguminosae). Bol. Soc. Arg. Bot. 20(3-4): 201-225.
- MARECHAL. 1982. Arguments for a global conception of the genus Vigna. Taxon 31(2): 280-283.
- MASLIN. 1982. Studies in the genus Acacia (Leguminosae: Mimosoideae): 10-12. Nuytsea 4(1): 29-46, 61-103, 105-112.
- MASLIN and S. D. Hopper. 1982. Phytogeography of Acacia (Leguminosae: Mimosoideae) in Central Australia. PP. 301-316. In Barker, W. R. and Greenslade, P. J. M. (eds.) "Evolution of the Flora and Fauna of Arid Australia." Peacock Publications, Adelaide.

- Maxwell, R. H. 1982. A disjunct new species of *Cleobulia* (Leguminosae) from Mexico: *Cleobulia crassistyla*. *Phytologia* 51(6): 361-368.
- MIEGE. 1982. Protein types and distribution. In *Encyclopedia of Plant Physiology*, new series vol. 14A, "Nucleic acids and proteins in plants." In Boulter, D. and B. Parthier, eds., 291-345. Springer Verlag Berlin.
- Nguyen Tien Khoe and YAKOVLEV. 1982. Notes on legume plants of Vietnam. I. *Bot. Zhurn.* 67(11): 1540-1543.
- NICHOLLS and B. A. Bohm. 1982. Quantitative flavonoid variation in *Lupinus sericeus*. *Biochem. Syst. & Ecol.* 10: 225-231.
- OHASHI. 1982. A taxonomic survey on the Japanese Leguminosae. *Acta Phytotax. Geobot.* 33: 308-320.
- OHASHI. 1982. The taxonomic position of the genus *Murtonia* (Leguminosae). *Jour. Jap. Bot.* 57: 225-231.
- OHASHI. 1982. The taxonomic position of *Tadehagi rodgeri* (Leguminosae-Desmodieae). *Jour. Jap. Bot.* 57: 254-268.
- Olwell, M. 1982. A populational study of the exomorphic variations in *Vicia minutiflora* Dietr. including *V. reverchonii* Wats. (Leguminosae). *Sida* 9(3): 215-222.
- PACLT. 1982. On the repeatedly confused nomenclature of chinese species of *Gleditsia* (Caesalpiniaceae). *Taxon* 31(3): 551-553.
- POLHILL. 1982. *Crotalaria* in Africa and Madagascar. A. A. Balkema, P.O. Box 1675, Rotterdam, Netherlands, 400 pp., 105 figs., cloth, \$65.00 (US). Contents: Introduction; *Crotalaria* (Generic relationship, Generic subdivisions, Chromosomes and breeding systems, Chemistry and toxicity, Uses); Distribution and divergence; Key to sections; Regional keys; Native species (Sections: *Grandiflorae*, *Chrysocalycinae*, *Hedriocarpae*, *Geniculatae*, *Schizostigma*, *Calycinae*, *Crotalaria*, *Dispermae*); Introduced species; Excluded species; References; Index to names.
- ROSS. 1982. A revision of the genus *Templetonia* Papilionaceae. *Muelleria* 5(1): 1-30.
- SAINT-MARTIN. 1982. *Biosystematique des Papilionaceae: ontogenie, phytodermologie, seminologie*. Ph.D. dissertation.
- Seshavatharam, V. Subbs, RAO. 1982. Mega sporogenesis in some *Dalbergieae*. *Curr. Sci. (Bangalore)* 51(6): 295.
- Shah, G. L., RAO, M. 1982. Isolated tracheids in the tribe *Trifoleae* *Papilionaceae*. *Curr. Sci. (Bangalore)* 51(12): 617-618.
- SMALL and Brookes. 1982. Coiling in alfalfa pods in relation to resistance against seed chalcids. *Can. J. Pl. Sci.* 62: 131-135.
- SMALL and Lefkovitch. 1982. Agrochemotaxometry of alfalfa. *Can. J. Pl. Sci.* 62: 919-98.
- SMALL, Lefkovitch and Classen. 1982. Character set incongruence in *Medicago*. *Can. J. Bot.* 60: 2505-2510.
- Soladoye, M. O. 1982. New species of *Baphia* Leguminosae *Papilionoideae* from lower Guinea. *Kew Bull.* 37: 295-304.
- Srivastav, P. I. and RAINA. 1982. Cytogenetics of *Clitoria* I. Induced autotetraploidy in *C. ternatea*. *Cytologia* 47: 99-107.
- STAINER and Horvat. 1983. L'etude de l'exine dans le complexe *Phaseolus-Vigna* et dans des genres apparentes. V. le sous-genre *Sigmoidotropis* (Piper) Verdcourt et *Ramirezella strobiliphora* (Robinson) Rose. *Pollen et spores* 25(9): 5-40.

- STANKEVICH et al. 1982. Systematics, breeding, and initial material of legume crops. Bull. Appl. Bot. Gen. Pl. Breed. Vavilov. Inst. Pl. Indust. 72: A variety of articles on Glycine, Phaseolus, Vigna, Pisum, Lens, Vicia, and Lupinus, with emphasis on economic concerns.
- STEIN. 1982. Stipule arrangement in the genus *Caesalpinia* (Leguminosae). Bot. J. Linn. Soc. 84: 289-293.
- STIRTON. 1982. Several articles. *Bothalia* 14(1): 27-35 and 72-77. [New species or studies of *Indigofera*, *Medicago*, *Otholobium*, *Rafnia*, *Rhynchosia*.]
- Van Steenis, C. G. G. J. and J. F. Veldkamp. 1982. Miscellaneous botanical notes xxvi: 155. Description of the pod of *Ormosia penangensis* Ridl. (Leguminosae), and 156. Reduction of *Trifidacanthus* Merr. to *Desmodium* (Leguminosae). *Reinwardtia* 10: 21-22.
- Verma, R. C. and RAINA. 1982. Cytogenetics of *Crotalaria* VI. Chiasma frequency and position, and univalent behavior in a (partially) asynaptic mutant of *C. juncea*. *Genetica* 58: 65-70.
- WINDLER and S. G. Skinner. 1982. The taxonomy and nomenclature of *Crotalaria-Foliosa* Leguminosae and related species. *Brittonia* 34: 342-345.
- YAKOVLEV. 1982. Generis *Hedysarum* L. (Fabaceae) species novae ex Asia Centrali. *Novitates Systematicae Pl. Vascularium* 19: 114-117.
- YAKOVLEV, Nguen Tien Ban, Nguen Tien Hiep. 1982. On the scientific herbaria in the Socialist Republic of Vietnam. *Bot. Zhurn.* 67(9): 1306-1310.



FIGURE 115.—*Prosopis juliflora* (Sw.) DC. Mesquite. A, Habit— $\times 0.5$; B, rootstock portion $\times 0.5$; C, pod— $\times 0.5$; D, seeds— $\times 1.25$.